

MISSOURI DEPARTMENT OF CONSERVATION



June/July 2011

Xplor

adventures in nature

SUMMER'S AFLUTTER

CHECK OUT MISSOURI'S
AMAZING BUTTERFLIES



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photo by Donna Brunet

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Xplor

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ON THE WEB

Visit www.xplormo.org for cool videos, sounds, photos, fun facts and more!

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PHOTOS

with Nop & Dave



yellow-crowned night-heron

When Breakfast Bites Back

photo by Noppadol Paothong

To painters and photographers, a portrait is an image that depicts the face and upper body of a person or animal. Its purpose is to show what the critter in question looks like. Of course, this photo of a yellow-crowned night-heron satisfies the definition. But if you call it a portrait, photographer Noppadol Paothong might want a word with you.

"I try not to make just portraits," Nop says. "I try to capture a glimpse of an animal's life—where it lives, what it eats, how it survives."

Despite its name, yellow-crowned night-herons are active day and night. Yet, that doesn't make these shy little birds easy to find. Nop got lucky when he spotted one as it waded through a marsh beside the Mississippi River. He watched the heron plunge its head into the water and come up with a crayfish. While the bird battled the cranky crustacean, Nop belly-crawled through marsh muck to get close enough for a shot.

"I like how this shows a moment between predator and prey," Nop says. "The crayfish has a pincer up, and he's going to fight. But you know the heron's going to eat him for breakfast."

How's that for a glimpse into the life of a shy bird?

See more cool photos at www.xplormo.org/node/13972.

YUM! discover

School's out, and the best way to beat summer boredom is to get outside. With creeks to seek, baby animals to watch and fireflies to catch, there's plenty to do in June and July. Here are eight more things you can discover.

Hum along at a reunion concert.

Grab some earplugs, because the first half of June will be LOUD! The root of the ruckus is a pinkie-sized insect called a periodical cicada. Periodical cicadas spend most of their lives underground. They wriggle to the surface every 13 or 17 years—depending on the kind of cicada—for a huge reunion concert.

To woo lady cicadas, males flex drum-like organs on their tummies that create a loud hum. When thousands hum together, they make enough noise to rival any rock band. For more on cicadas, buzz over to www.mdc.mo.gov/node/12097.



Periodical cicada

Clock a THUNDERSTORM.

There's a thunderstorm rumbling in the distance. Want to know how far away it is? When you see lightning flash, count the seconds until you hear thunder. If you don't have a watch, just say "one Show-Me State, two Show-Me State, three Show-Me State ...". For every five seconds you count, the storm is one mile away. Be careful, though. Lightning can cook you crispy. Stay inside or on a porch while you're waiting for thunder.



JAM with a SONGBIRD.

What's orange and flies and loves grape jelly? It's a Baltimore oriole. Like hummingbirds, orioles eat nectar and insects. You can attract the brilliantly colored birds to your yard by setting out a dish of grape jelly or jam. Be sure to replace the jelly every couple of days to keep germs from growing in it. If you don't have jelly, orioles also enjoy oranges. Simply cut an orange in two and set the halves outside.



Baltimore oriole

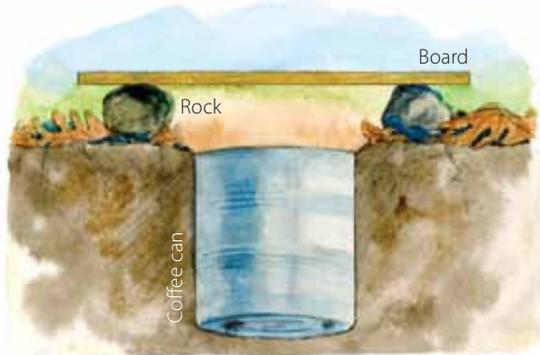
Paint a muddy masterpiece.

Painting with mud is good, clean fun. Mud's easy to find and comes in a rainbow of colors. Scoop some from puddles or dig a hole in your backyard (ask your parents, first). The deeper you dig, the more colors you'll find. Use an egg carton to keep colors separate. You won't need brushes—fingers work just fine—and a sidewalk makes the perfect canvas. The next storm may wash your *mudsterpiece* away, but don't worry Leonardo dirt Vinci, you can paint another.



Dig a TRAP.

Back in the day, big game hunters dug deep pits to catch lions and tigers and bears—oh, my. The unsuspecting beasts would fall into the pits and couldn't climb back out. You can catch smaller quarry—ant lions, tiger beetles and woolly bear caterpillars—by burying a coffee can so it's flush with the soil's surface. Put four rocks around the can and lay a small, square board on top. This will protect whatever you catch from sun and rain. Check your trap every day, and release your captives after you've taken a look.



Go with the flow.

If summer's heat has you beat, escape to a cool, clear Ozark stream. Each one offers the excitement of an

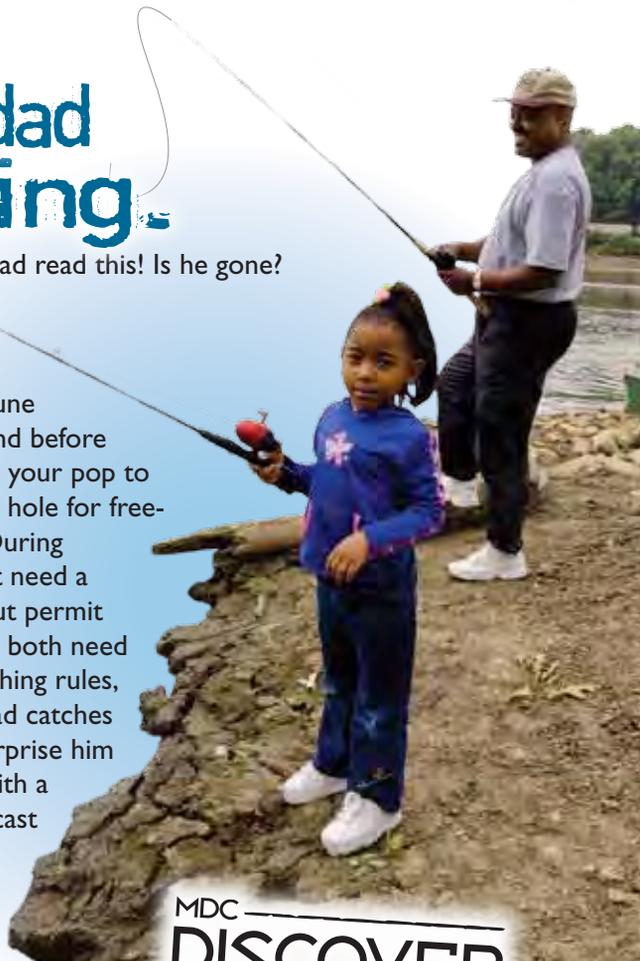
amusement park but without long lines. Float a canoe in the current and you'll squeal with thrill as you rush over rapids. Or, fish for bass or make a splash in a spring-fed pool.

Missouri offers plenty of splendid rivers. Head to the library and check out *A Paddler's Guide to Missouri* to help you choose.



Take dad fishing.

Quick! Don't let dad read this! Is he gone? Good. Now, here's the perfect Father's Day present: On June 11–12 (the weekend before dad's big day), take your pop to the nearest fishing hole for free-fishing weekend. During that time he won't need a fishing permit, trout permit or daily tag. (You'll both need to follow other fishing rules, though.) If your dad catches the fishing itch, surprise him on Father's Day with a permit so he can cast a line year-round.



MDC
**DISCOVER
nature**

Track a TREEFROG.

Sit outside on a summer evening and you might be treated to a musical trill. Although it sounds like a bird's song, it's probably the call of a gray treefrog. Try to track down the awesome amphibian by following its voice. Check windows and porch lights, first. Treefrogs frequent these areas to feast on the buffet of bugs attracted by the lights. To hear a gray treefrog and learn more about them, hop over to www.xplormo.org/node/3963.



Looking for more ways to have fun outside? Find out about Discover Nature programs in your area at www.xplormo.org/node/2616.

WILD JOBS

Bat Counter

SHELLY COLATSKIE
SHEDS LIGHT ON
CREATURES THAT
LIVE IN DARKNESS.

Outside, sunshine illuminates the Ozark hillside, but deep inside the cave, the darkness is complete. So is the silence. It makes the scuffle of Shelly Colatskie's boots echo as she creeps along the muddy passage. The beam of her headlamp pierces the gloom, scanning for objects like the light from an airport tower.

Hibernating gray bats blanket the ceiling. Some are piled four deep on top of each other. In places, 250 bats snuggle in a space the size of this magazine. As a cave biologist, it's Shelly's job to count them all. Her tallies help scientists learn whether bat numbers are increasing or decreasing.

Shelly studies other cave creatures, too, including snails the size of sand grains and flatworms the color of pink cotton candy. These, like many of Missouri's cave critters, are found nowhere else on Earth.

Not all of Shelly's work happens underground. Sometimes she uses nets to snare bats fluttering through forests. Other times, she sits near caves and uses heat-sensing cameras to record bats flying out.

Shelly loves her job, but there are some downsides. Caves are cold, wet and muddy. Shelly must keep in good shape to lug gear and wiggle through narrow crevices. And, don't even ask her about the rabies shots she had to get to handle bats.

"But," says Shelly, "if I can shed light on these mysterious animals, it's worth it."



Silver-haired bat

Yuck!

This Great Plains ratsnake has found a new main squeeze—a tasty deer mouse. Ratsnakes are constrictors. They coil their muscular bodies around prey and squeeze until the unlucky animals can't breathe. It's like when Aunt Lulu hugs you at Christmas, only the snake doesn't let go. Lest you feel sorry for the mouse, consider that without snakes and other predators, we'd be overrun with rodents.

YOUR GUIDE
TO ALL THE
NASTY,
STINKY,
SLIMY AND
GROSS
STUFF THAT
NATURE HAS
TO OFFER



GREAT PLAINS
RATSKAKE

Strange BUT TRUE

A bubblegum-pink katydid is as rare as a four-leaf clover. Most katydids are green and leaf-shaped, perfectly disguised for hiding on plants. Pink katydids, however, are born without the skin pigments that turn other katydids green. It's good this condition is uncommon, because pink katydids stick out like sore thumbs! Consequently, most wind up taking a one-way trip into a bird's beak. Search fields around your house. Maybe you'll get lucky and find one before the birds do.

Katydid



WHAT IS IT?

DON'T KNOW?

Jump to Page 16 to find out.



I'm king of the pad, and don't you *froget* it.
Stuffing my face keeps me hoppy.
I taste like chicken, but I lay more eggs than any hen.
Don't croak if the answer doesn't leap out at you.

NEW OUTDOOR

BY AMBER BOKERN, AGE 11

ADVENTURES

Amber's headlamp shone on a big bullfrog floating in the dark marsh water. With a quick jab, she caught the frog with her gaff.



It didn't take long for Amber to catch a limit of bullfrogs. Back home, her dad wanted to take a photo of Amber holding all eight of them. The frogs, however, wouldn't cooperate. They squirmed and kicked. They were slick, too. Soon a frog slid free, then another and another. They began hopping around the kitchen looking for places to hide.

Amber ran to the bathroom to stash the remaining frogs in the tub. Then she ran back to the kitchen to help her dad catch the frogs that had escaped.



Amber's dad already had caught one frog. Her cat had another cornered under the couch. Amber found the last frog hiding behind the refrigerator.

When she isn't frogging, fishing or hunting, Amber loves to paint pictures of ducks. She entered her first duck stamp contest at age 7. Since then, she's won honorable mention, second place and two first places in her age group.



To learn more about the Junior Duck Stamp Program, visit www.fws.gov/juniorduck.



Take a Hike!

Hiking promises adventure—or at least something new to see—around every bend. Before you strike off for a walk in the woods, check your trail-trekking know-how by following Mari and Amy on a virtual hike. Ready?

Pack Light. Pack Right.

You don't need much for a hike, but you do need a little. Wear sturdy shoes or boots—no flip-flops, please—and throw these in your backpack before you hit the trail:

- ▶ Canteen filled with water ▶ First-aid kit
- ▶ Snacks ▶ Whistle ▶ Rain coat
- ▶ Map and compass ▶ Pocketknife
- ▶ A small flashlight ▶ Toilet paper
- ▶ Field guides, binoculars, magnifying glass, camera, sketchbook
- ▶ Bug repellent and sunscreen



LET'S GO.

You Choose...

The trail zigzags down a steep hillside laced with delicate ferns. Amy and Mari begin trudging down the path. You can't help but think it would be quicker to cut straight down the hill. What should you do?

- A.** Bellow "last one down's a gassy skunk," and plunge off through the underbrush.
- B.** Follow Amy and Mari.
- C.** Yell "watch this," tuck into a ball, and somersault downhill.

There are two reasons why it's best to follow Amy and Mari. First, wandering off by yourself is a good way to get lost or left behind. Second, if everyone who used the trail veered off the path, the ferns and other plants would quickly get trampled.



You're leading the hike and reach a large log that has fallen across the trail. There's no way to walk around it. What should you do?

- A.** Just step over it.
- B.** Grab a vine and swing over Tarzan-style while yodeling *ah-ee-ab-ee-ee-yah*.
- C.** Step on top of the log, peek over the other side, then step down.

There's no way to know what's behind a fallen log. You don't want to step in a huge patch of poison ivy, trample a tasty morel mushroom, or wake a venomous snake from its nap. It's best to step on top of the log, peek over, then carefully step down.



No Food, No Fuel, No Fun

You'll need lots of energy on a hike, so don't forget the snacks. Good old raisins and peanuts, or **GORP**, is a tried-and-true treat, but any combination of crunchy, salty, chewy and sweet is sure to please. Give **Xplor's Four-C Trail Mix** a try.

- ▶ 1/2 cup cashews
- ▶ 1/2 cup cheesy crackers (the ones shaped like little fish)
- ▶ 1/2 cup chocolate chips
- ▶ 1/2 cup dried cranberries or cherries

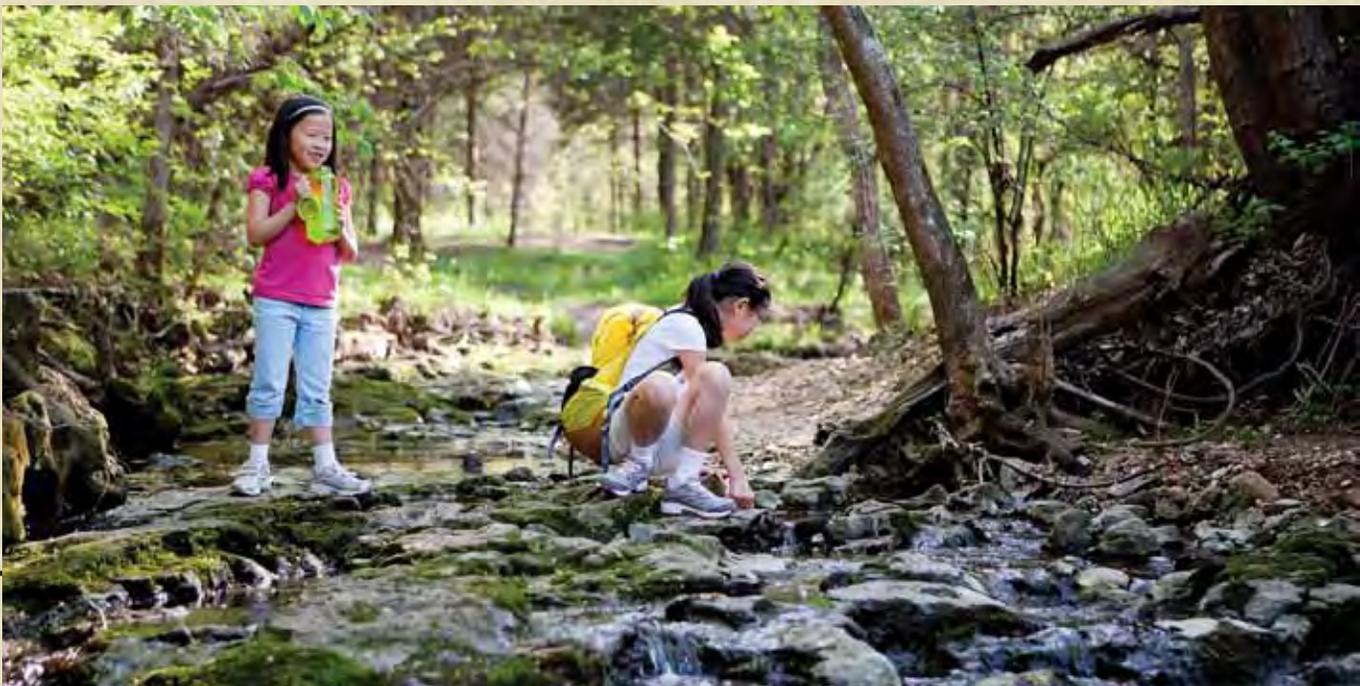
Pour ingredients in a zip-top bag. Seal the bag and shake to mix.

Has the hike made you hungry?
Take a GORP break.

Everyone stops to rest beside a gurgling stream. You peel off your boots and dip your toes in the cool water. It smells sweet. It looks clean. The water in your canteen, on the other hand, has grown warm and stale. You're thirsty. What should you do?

- A.** Sip from the stream.
- B.** Drink from your canteen.
- C.** Convince Mari to drink from the stream. If nothing happens to her, it's okay for you.

Stream water might look clean, but it's probably full of germs. One sip and you'll be sick. So, stick with water from your canteen. For ice-cold water all hike long, fill your canteen three-quarters full and freeze it the night before.



A shiny green beetle captures your attention. You pull out a magnifying glass and crouch down for a peek. When you stand up, Mari and Amy have disappeared. You run after them, but come to a fork in the trail. What should you do?

- A.** Flip a coin. Heads go right; tails go left.
 - B.** Use your magnifying glass to focus the sun's rays to light a signal fire.
 - C.** Hug a tree.
- When you're separated from your group—or if you get lost—hug a tree, stay put and wait for people to find you. Blow a whistle if you have one. The sound will guide searchers to your location.



The tunnel of trees you've been hiking through opens into a meadow. Thousands of pretty wildflowers dot the hillside. Your mom loves flowers, and you probably owe her for that vase you broke playing catch in the kitchen. What should you do?

- A.** Pick some flowers. After all, there are thousands.
- B.** Dig up a clump of flowers. Mom can plant them in her garden and enjoy them all summer.
- C.** Take a photo. It will last longer. It probably wouldn't hurt a thing if you picked a handful of flowers for mom. But, what if everyone who used the trail picked a handful? Soon the flowers would be gone. Take only pictures; leave only footprints.



Now you're ready. Hope to see you on the trail!

Nature's Exclamation Points

by Brett Dufur ● photos by Donna Brunet

Some butterflies, with their dazzling colors and intricate patterns, seem to exclaim, “Summer is here!” Others lie hidden, perfectly camouflaged on leaves and bark, and reward only careful observers. But butterflies don’t just win cool points for color. They are downright incredible. Read on to discover how butterflies are perfectly equipped for a life full of adventure.



Juniper hairstreak

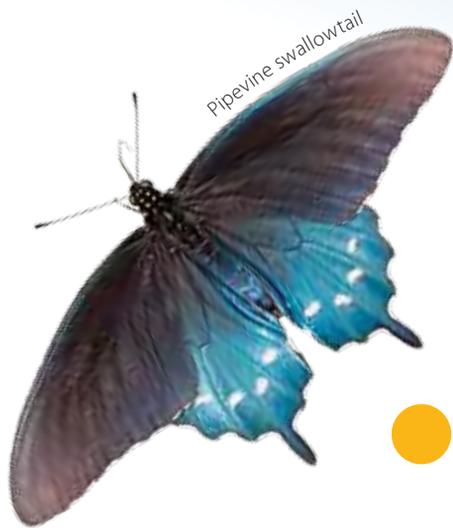
Tongues on Their Toes

Butterflies can taste with their feet. Aren't you glad you can't taste your 2-day-old tube socks? Whew! When you think about it, it makes perfect sense for butterflies to have tasting “tongues” on their toes. When they land on flowers or plants, they instantly know if they're good sources of nectar or host plants for their eggs. Having tongues on their toes is more than just tongue-talizing trivia, it helps mother butterflies make sure their babies start out with a full-meal deal.



Tiger swallowtail

Glade coneflower



Long-Distance Fliers

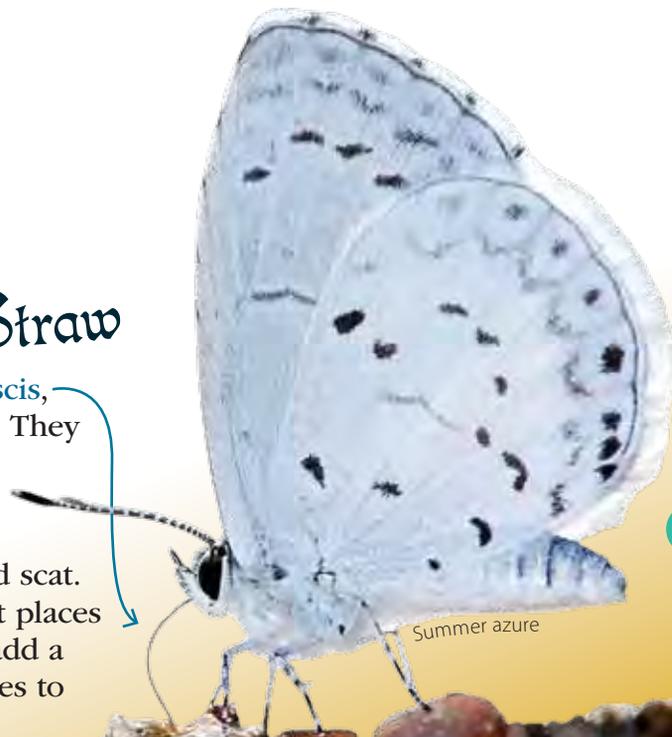
Weighing in at less than a postage stamp, some butterflies migrate to places a postcard wouldn't be able to go. The monarch is the butterfly migration champion. These orange-and-black insects fly thousands of miles, all the way from Missouri to central Mexico and back over the course of several generations. Learn how to help scientists track their migration at www.xplormo.org/node/9257.

Scales Like an Alligator

The wings of butterflies are mostly transparent. It is the tiny shimmering scales, which overlap like shingles on a roof, that give their wings many of the colors we see. The scales refract, or bend the light, similar to how a rainbow gets its color.

The Ultimate Crazy Straw

Butterflies use a feeding tube, or **proboscis**, to slurp up nectar from delicate flowers. They curl the proboscis up when they are on the go. Adult butterflies feed primarily on flower nectar. A few feed on tree sap, decaying fruit, animal carcasses and scat. Many butterflies suck moisture from wet places like mud puddles. Butterflies can even add a few drops of water from their own bodies to dissolve food so it's easier to suck up.





Question mark butterfly

Patterns Like Picasso

Butterflies are fun to draw because you get to use the brightest crayons in the box. Vibrant reds, yellows, blues and greens will inspire the artist in you. Some butterflies seem to carry an entire rainbow on their wings! Other butterflies reward your eagle eyes. See if you can find the question mark on the butterfly to the left.

Nature's Change Artists

Butterflies start out as eggs, then turn into caterpillars. These eating machines chow down for a few weeks to a few months, then hang out in a **chrysalis** and prepare for their great unveiling. When the metamorphosis is complete, gone is the plump caterpillar. In its place is an extraordinary adult butterfly ready to find a mate.



Monarch

Orange Means Trouble

Monarchs' bright orange wings announce to predators, "Don't eat me!" These orange beauties taste bad because as caterpillars they ate milkweed, a plant that contains toxic chemicals. Other butterflies, such as the viceroy, also are bright orange and taste bad to predators.

By sharing these similar traits, both butterflies are more likely to survive.

Snake Snack

Snoozing caterpillar or snake? Butterflies can be masters of deception. The caterpillar of the eastern tiger swallowtail butterfly has unusual markings that look like the eyes of a snake. Imagine a bird's surprise finding a "snake" inside a coiled-up leaf!



Eastern tiger swallowtail caterpillar



Southern dogface

Aster

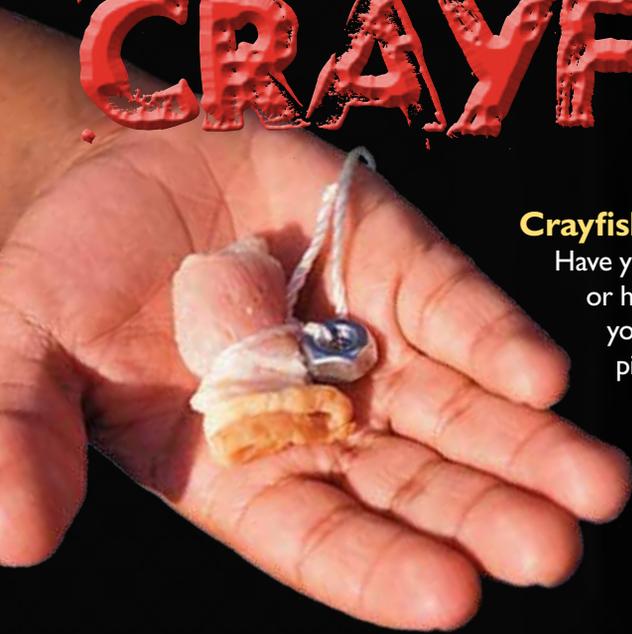
Fly

Plant It and They Will Come

Sometimes attracting butterflies is as easy as slicing open a piece of fruit and leaving it on a plate outside. Learn which plants attract your favorite butterflies to help reel them in. Remember: Caterpillars need host plants to sustain them. Butterflies survive on nectar. Planting both nearby will keep you aflutter in butterflies all summer long. Visit www.grownative.org for ideas on how to attract them.

XPLOR MOR

CATCH A CRAYFISH



Crayfish Wrangling

Have you caught a crayfish or has the crayfish caught you? To keep from getting pinched by the crayfish's pincers, grab your mudbug by the hard shell on its back, just behind its claws. When you're done looking, put it down beside its chimney and watch it scoot back inside.



What You Do

1. Roll up a piece of bacon, and tie it to the end of the string.
2. Tie the nut just above the bacon.
3. Look in soggy areas near ditches, ponds and marshes for crayfish chimneys. They look like towers built with blobs of mud.
4. Lower the bacon into a chimney.
5. If you feel a tiny tug on the string, carefully pull it up. There might be a crayfish clutching the other end!

What You Need

- 3 feet of sturdy string
- 1 metal nut (the kind you put on a bolt)
- 1 piece of bacon



Crayfish chimney

ANSWER TO

WHAT IS IT?

FROM PAGE 6

Bullfrogs are Missouri's largest frogs. These coffee-mug-sized croakers eat anything they can cram in their mouths, including snakes, birds and mice. In summer, the calls of lovestruck males—*burrr-rumm*—can be heard half a mile away! Females lay about 20,000 eggs that hatch into chunky tadpoles. Many people eat bullfrogs. When fried, legs from these meaty amphibians taste like chicken.



E

TAKING THE

BAIT

If you're a fan of fishing, Missouri's the state for you! More than 24 kinds of game fish swim in the Show-Me State's ponds, lakes and rivers. Most will bite on a variety of baits, but some lures work better than others for specific fish. Test your angling IQ by drawing a line from the fish to the lure that's best used to catch it. Read the clues for help.



Sinker bait

LARGEMOUTH BASS

Little fish wig out when I stick out my big mouth to pig out.



BLUEGILL

Bait must wriggle and squirm to make me turn.



SMALLMOUTH BASS

Crawdada claws don't cramp my craw. I can munch mudbugs all day.



WHITE CRAPPIE

Because it's dark down deep where I creep, a bright lure is the right lure for me.



CHANNEL CATFISH

Dirt gives a murk to the water where I lurk, so I prefer bait I can smell.



RAINBOW TROUT

Flies don't bug me. In fact, I love 'em—for lunch.



Want to see how you rate at matching the fish to its bait? We'll illustrate. Just relocate to www.xplormo.org/node/13898.

Fish illustrations by Joseph R. Tomelleri

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FREE TO MISSOURI HOUSEHOLDS

BLUEBELL DRAGONFLY



Buzz off! This dragonfly probably wishes it could but must wait for the sun to warm its body and dry the dew from its wings. Once it's able to fly, however, bugs beware! Dragonflies are fierce predators that swoop and swerve to catch and eat other insects in mid-air.